STUDY MODULE DESCRIPTION FORM

Name of the module/subject		Code
Ergonomics		**1010632231011128540**
Field of study: **Mechanika i budowa maszyn**	Profile of study (general academic, practical): **general academic**	Year /Semester: **2 / 3**
Elective path/specialty: **Gas technology and renewable energy**	Subject offered in: **English**	Course (compulsory, elective): **obligatory**
Cycle of study: **Second-cycle studies**	Form of study (full-time,part-time): **full-time**	
No. of hours: Lecture: **1** Classes: **-** Laboratory: **-** Project/seminars: **-**		No. of credits: **1**
Status of the course in the study program (Basic, major, other): **other**	(university-wide, from another field): **university-wide**	
Education areas and fields of science and art: **technical sciences** **Technical sciences**		ECTS distribution (number and %): **1 100%** **1 100%**

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Basic knowledge from the field of theory of machines, machine structure, science about human
2	**Skills**	Logical thinking, utilisation of information acquired from the library, Internet, standards, catalogues
3	**Social competencies**	Understanding the need of acquiring transferred knowledge

Assumptions and objectives of the course:

Gaining knowledge on the subject: significance of ergonomy in the activities of engineers

Study outcomes and reference to the educational results for a field of study

Knowledge:

1. Has knowledge about safety and ergonomics in the design and operation of the machines and the risks that machines create for the environment - [K2A_W08]

Skills:

1. Is able to perform a fairly complex design project of an average working machine or a subsystem using modern CAD tools - [-]

Social competencies:

1. Understands the need for lifelong learning; is able to inspire and organize the learning process of others - [K2A_K01]
2. Is aware of and understands the importance and impact of non-technical aspects of mechanical engineering activities and its impact on the environment, is aware of responsibility for decisions - [K2A_K02]
3. Is able to set priorities for realization of undertaken tasks - [K2A_K04]
4. Is aware of social role of mechanical engineer, understands the need for and is able to deliver opinions and knowledge in the field of machine design, particularly through the media - [K2A_K06]

Assessment methods of study outcomes

Lecture: course credits obtained on the basis of a written test

Course description

?Basic concepts: origins of ergonomy as a scientific discipline, legal protection of man; Position of ergonomic designing in the methodology of technical designing in machine construction (requirements in the process of technical designing); Anthropotechnical and sociotechnical systems, somatic and receptor interrelationships in the system; Analysis of anthropometric, biomechanical and psychic features and assisting design work in ergonomy: traditional approach and utilisation of CAD systems, motion capture devices or 3D scanning; Analysis of anthropometric and biomechanical features in virtual features; Detailed principles of product ergonomic designing in machine construction; Contemporary fields of ergonomic activity, e.g.: ergonomy for senior citizens and persons with disabilities; ergonomy of extreme works; ergonomy of leisure time and sport (design criteria, requirements, standardisation); Instances of knowledge integration in ergonomic designing: e.g.: typography and its significance for designing of signalling and controlling equipment; building engineering and the applied canons of human body; designing of forms of technical objects employing empirical investigations of somatic and receptor traits of the human body; Development trends in designing for needs of ergonomy.

Basic bibliography:

Additional bibliography:

Result of average student's workload

Activity	Time (working hours)
1. Lecture participation	15
2. Consolidation of lecture content	3
3. Preparation for the assessment	5
4. Assessment participation	2

Student's workload

Source of workload	hours	ECTS
Total workload	25	1
Contact hours	17	0
Practical activities	0	0